

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

TRANSLATION
PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference BB85PC Sa/ma		Date of mailing (day/month/year) See form PCT/ISA/210
FOR FURTHER ACTION See paragraph 2 below		
International application No. PCT/EP2005/003992	International filing date (day/month/year) 15.04.2005	Priority date (day/month/year) 23.06.2004
International Patent Classification (IPC) or both national classification and IPC F01M13/02, F02B75/24		
Applicant DR. ING. H.C. F. PORSCHE AKTIENGESELLSCHAFT		

<p>1. This opinion contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 5%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 25%;">Box No. I</td> <td>Basis of the opinion</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>		<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion																							
<input type="checkbox"/>	Box No. II	Priority																							
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																							
<input type="checkbox"/>	Box No. IV	Lack of unity of invention																							
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																							
<input type="checkbox"/>	Box No. VI	Certain documents cited																							
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application																							
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							
<p>2. FURTHER ACTION</p> <p>If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.</p> <p>If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.</p> <p>For further options, see Form PCT/ISA/220.</p>																									
<p>3. For further details, see notes to Form PCT/ISA/220.</p>																									

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003992

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003992

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-6	YES
	Claims		NO
Inventive step (IS)	Claims	1-6	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO
2. Citations and explanations:			
1	This report makes reference to the following documents:		
	D1: DE 100 53 096 A1 (BAYERISCHE MOTOREN WERKE AG) 16 May 2002 (2002-05-16)		
	D2: US-A-4 825 825 (CHINO ET AL) 2 May 1989 (1989-05-02)		
2	INDEPENDENT CLAIM 1		
2.1	D1, which is considered to represent the closest prior art, discloses (the references in parentheses are to this document) an internal combustion engine with a pressure circulating lubrication system of the dry sump type, more particularly for a horizontally opposed engine, with an engine housing in which an oil suction chamber (dry sump) is formed in the lower part, lubricating oil being fed from said oil suction chamber to an oil reservoir (wet sump) (15), while the lubricating oil in the oil reservoir or oil store space is fed via a main feed pump to consumers (column 2, lines 64-67), from which the		

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003992

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

subject matter of independent claim 1 differs in that:

- an annular chamber arranged about the cylinder is provided as part of the oil recirculation system to the oil reservoir.

Therefore, the subject matter of claim 1 is novel (PCT Article 33(2)).

2.2 The solution to this problem proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)). The reasons are:

D2 discloses a tubular passage to the oil reservoir as an oil recirculation system for an internal combustion engine of the dry sump type. The concept of an annular chamber arranged about the cylinder as part of the oil recirculation system to the oil reservoir is non-obvious, since forming a chamber as a ring about the cylinder leads to complex cylinder block and oil recirculation passage geometry. Correspondingly, a person skilled in the art familiar with D1 and D2 would not arrive at the subject matter of claim 1 without thereby being inventive.

3 DEPENDENT CLAIMS 2-6

Claims 2-6 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003992

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Contrary to PCT Rule 5.1(a)(ii), the description does not cite D1 and D2 or indicate the relevant prior art disclosed therein.

The features of the preamble of claim 1 are not followed by reference signs placed between parentheses (PCT Rule 6.2(b)).

10/592,931

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITYTRANSLATION
PCTWRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year) See form PCT/ISA/210

Applicant's or agent's file reference

BB85PC Sa/ma

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/EP2005/003992

International filing date (day/month/year)

15.04.2005

Priority date (day/month/year)

23.06.2004

International Patent Classification (IPC) or both national classification and IPC

F01M13/02, F02B75/24

Applicant

DR. ING. H.C. F. PORSCHE AKTIENGESELLSCHAFT

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003992

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003992

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-6	YES
	Claims	NO
Inventive step (IS)	Claims 1-6	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-6	YES
	Claims	NO

2. Citations and explanations:

- 1 This report makes reference to the following documents:

D1: DE 100 53 096 A1 (BAYERISCHE MOTOREN WERKE AG)
16 May 2002 (2002-05-16)

D2: US-A-4 825 825 (CHINO ET AL) 2 May 1989
(1989-05-02)

2 INDEPENDENT CLAIM 1

- 2.1 D1, which is considered to represent the closest prior art, discloses (the references in parentheses are to this document) an internal combustion engine with a pressure circulating lubrication system of the dry sump type, more particularly for a horizontally opposed engine, with an engine housing in which an oil suction chamber (dry sump) is formed in the lower part, lubricating oil being fed from said oil suction chamber to an oil reservoir (wet sump) (15), while the lubricating oil in the oil reservoir or oil store space is fed via a main feed pump to consumers (column 2, lines 64-67), from which the

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003992

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

subject matter of independent claim 1 differs in that:

- an annular chamber arranged about the cylinder is provided as part of the oil recirculation system to the oil reservoir.

Therefore, the subject matter of claim 1 is novel (PCT Article 33(2)).

2.2 The solution to this problem proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)). The reasons are:

D2 discloses a tubular passage to the oil reservoir as an oil recirculation system for an internal combustion engine of the dry sump type. The concept of an annular chamber arranged about the cylinder as part of the oil recirculation system to the oil reservoir is non-obvious, since forming a chamber as a ring about the cylinder leads to complex cylinder block and oil recirculation passage geometry. Correspondingly, a person skilled in the art familiar with D1 and D2 would not arrive at the subject matter of claim 1 without thereby being inventive.

3 DEPENDENT CLAIMS 2-6

Claims 2-6 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003992

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Contrary to PCT Rule 5.1(a)(ii), the description does not cite D1 and D2 or indicate the relevant prior art disclosed therein.

The features of the preamble of claim 1 are not followed by reference signs placed between parentheses (PCT Rule 6.2(b)).